The relation of these two curves to the sun-spot curve is not clear.

The temperature-relation.—A variety of material was collated to illustrate this relation and the conclusion was reached that the reaction of terrestrial temperature to solar changes due to variations in the spottedness of the sun is quite complex and that there are apparently other influences not fully understood.

The rainfall relation is likewise not obvious. I conclude as a final summation of the results of the study:

(1) There are some striking resemblances between the curves of weather elements and that of sun spots, but with numerous irregularities of short period not removed by the smoothing processes.

(2) The change in weather conditions frequently precedes the change in sun spottedness which leads to the inference that they are not related as cause and effect.

(3) There is some evidence that the effect of solar variations differs with the season and the locality.

(4) The problem is quite complex and the meteorological records are of inadequate length for the purpose.

MILD WINTER OF 1924–25 IN BERLIN

Dr. G. Hellmann in the April, 1925, number of the Meteorologische Zeitschrift briefly summarizes the winter of 1924–25 in Berlin. That winter, counting from December 1 to February 28, as usual, proved to have been the third mildest in the last 160 years, the winter of 1795–96 only being milder and the winter of 1868–69 being almost exactly as mild; the latter, however, was broken by a ten-day cold period in January. An unusually warm February—about 4.3° C. above normal—was common to both winters. * * * The temperature in 1924–25 ranged from −7.5° to 15.3° C. (18.5°–59.5° F.).

The winter belongs to the dry-mild type and this type occurs less frequently than the wet-mild type.

Doctor Hellmann notes that the usual spell of inclement weather which usually follows a very mild winter was not lacking.

Here in the United States, although February was exceptionally warm, both March and April were devoid of unseasonable weather.—*A. J. H.*

THE NATIONAL ELIMINATION BALLOON RACE FROM ST. JOSEPH, MO., MAY 1, 1925

[Extracts and notes based on a report by W. S. Belden, United States Weather Bureau, St. Joseph, Mo.]

The National Elimination Balloon Race in 1925 started from the aviation field in St. Joseph, Mo., late in the afternoon of May 1. Five balloons were entered in the race.

At St. Joseph, May 1 was clear with temperature considerably below normal, ranging from 39 to 62 degrees. Northwest wind prevailed from 3 p. m., April 28 to 8 p. m., May 1. The wind attained gale force on the forenoon of the 29th and was light to fresh on the 30th and 1st, the maximum velocity for a period of five minutes on each of the last two dates being 24 miles per hour from the northwest. The wind on the afternoon of May was rather gusty, the extreme velocity covering a period of two to three minutes of each hour from 1 to 6 p. m. being at the rate of 23 to 25 miles per hour.

Each pilot was furnished detailed meteorological reports and charts based on aerological observations made at 12 well distributed stations on the afternoon of April 30 and at 7 a. m. and 11 a. m., May 1. Numerous pilot balloon runs were made May 1 at the local aviation field by the United States Army meteorological service. Other information furnished by the Weather Bureau included daily weather maps, daily weather bulletins, forecasts for Missouri, Kansas, Nebraska and Iowa, a special weather summary and indications issued by the district forecaster at Chicago, based on special noon observations May 1, and schedules of radio broadcasts for the benefit of the contestants, three of which carried radio receiving sets. Forecasts and summaries of upper air conditions were broadcast for the benefit of the pilots at intervals during the time the balloons were in the air. These radio bulletins were prepared by the Weather Bureau at Washington and Chicago and sent by telegraph to a number of broadcasting stations that were most favorably located with respect to the probable path of the balloons.

On starting, the balloons were carried to the south-southeast. Those rising to higher levels within a few hours after starting moved more in a southeasterly direction and at a greater speed than those keeping nearer the ground. The courses of all the balloons were the results of winds flowing from a ridge of high pressure which extended from Canada to the Gulf of Mexico. The winning balloon, piloted by Mr. W. T. Van Orman, aided by Mr. C. K. Wollam, landed near the town of Reform, Ala., exactly 36 hours out, and 585 miles from St. Joseph.

OROGRAPHIC WIND AS AN AID TO GLIDING FLIGHT IN AIRPLANES

The remarkable development in man's ability to take advantage of the upthrust of air over ridges for prolonged gliding flight, is shown by the report (Aviation, April 20, 1925, p. 439) of the achievements of Lieutenant Thoret and a pupil of his, both of the French Air Service. In 1923 Lieutenant Thoret remained in the air for 7 hours, with his engine completely cut off. Sergeant Wernert recently glided for 9 hours and 17 minutes in the same manner. On the day when he established this record, a high wind was blowing across the ridge which is the scene of the soaring tests, developing, as nearly as can be inferred from the description, a standing wave about 2 km. wide and 4 to 5 km. long over the ridge. Along the crest of the ridge Wernert glided at some 50 to 300 yards above and in front of it, "at all times maintaining a great reserve of flying speed. He tacked up and down in front of the hill all day" and finally toward sunset, the air becoming disturbed in a manner ascribed to cooling of the air in the shadow of the hill, soaring flight became increasingly difficult. "A perfect landing was made by moonlight."—*B. M. V.*

METEOROLOGICAL SUMMARY FOR APRIL AND MAY, 1925, FOR ARGENTINA, CHILE, PARAGUAY, AND BOLIVIA

[Reported by Señor Julio Bustos Navarrete, El Salto Observatory, Santiago, Chile]

April.—During April the weather was rather rainy in all of the southern part of the continent, while in northern Argentina and in Uruguay it was generally of the type occurring with the domination of high atmospheric pressure. On the Bolivian plateau there were days with severe cold, and frosts were frequent.

On the 2d and 3d scattered rains fell in Argentina.

The first important cyclonic depression appeared on the 5th; it controlled conditions in central and southern Chile,